

The Horse.

THE AMERICAN DERBY.

The race for the American Derby stakes at Chicago on Saturday, the 23d inst., was one of the most exciting in the history of that event. There were three great horses in the race—Spokane, Proctor Knott and San Jose. Spokane was the favorite in the betting, but the friends of Proctor Knott placed bets of money on him though Spokane had twice beaten him, once for the Kentucky Derby stakes, and once for the Clark stakes. It was generally believed that Proctor Knott was not at his best in those races, and that when he was, Spokane, or any other horse, would surely be beaten. Alas for the hopes of Kentucky! Thousands of dollars upon Knott only to be captured by the half-bred brigade from the wilds and mountains of Montana, who put every dollar upon Spokane they could get taken! Thirty-five thousand people saw the race. There was hardly a vacant foot of standing room on the grounds and not a vacant seat in the huge grand stand. The betting was something tremendous. It was almost a risk of life that the bookmaker's stands were to be reached, the struggle in the betting ring beginning description. So much money came down from the Northwest that Spokane went to the post a heavy favorite at six to five. The closing odds about Knott were two to one, Don Jose four to one, Once Again six to one, Sorrento eight to one, Long Dance and Retrieve thirty to one each, Fully \$1,000,000 changed hands on the result, and Spokane carried off \$18,000 as his share of the winnings. When the flag fell for the race Once Again was in front, followed by Sorrento, Don Jose, Proctor Knott, Long Dance, Retrieve and Spokane in the order named. Knott shot ahead like a flash. The pace was fairly fast and all seemed content with their positions, which down the stretch and past the stand were not changed except for a moment Don Jose made a spurt. There Knott had an advantage of two lengths over the others, who were well bunched, with Spokane bringing up the rear. Past the clubhouse Knott lost some of his lead, and as the seven horses raced past the three-quarter pole Sorrento was one and a half lengths behind the leader and one-third that distance behind Don Jose.

When the half-mile mark fell behind the racers there was just daylight between Knott and Retrieve who had come up in the race, while Don Jose was still third and Spokane fourth, Long Dance and Once Again being practically out of the race. Sorrento, who had been running easily in second place all along was cut off on the great turn and while making for the stretch was actually last. He quickly pulled up, however, and as the home stretch was touched he was second again to Proctor Knott, but there the future winner gave out and Spokane made his run. So fast did the Montana colt come that rushing past the last quarter he was actually leading while Knott had already fallen into third place. Retrieve divided the pair. Again Sorrento advanced gamely, but though stronger than those behind could not disturb Spokane, who, without tacking whip or spur, won very easily by a full length. Sorrento was second, a head before Retrieve third, followed by Don Jose, Long Dance, Once Again and Proctor Knott. The latter, cut up and very tired, stopped at the saddling paddock and was taken to his stable while the crowds hurrahed and the band played as a saddle of roses was being placed upon the winner's haunches.

It can no longer be doubted that Spokane is a great horse. He has defeated the best horses in the west, and did it with apparent ease. He was bred in Illinois, by the late Gen. Bennett, and sold to a Montana party who still owns him. He has won the three richest stakes in the west, and must have made his owner an immense amount of money.

A Satisfactory Stable Floor.

W. F. Brown, in the Country Gentleman, relative to the respective merits of plank and cement floors, says:

I have been making a study of stable floors for three years past, and am thoroughly conversant with the merits of each. I had an impression that the cement floor would be much greater for the first cost, but knew it would be cheaper in the long run, on account of its durability, but I find that the material for the cement floor cost me considerably less than the lumber would, and while the labor is probably more to lay the cement than to put down a plank floor, its cost is certainly no more, and where stone, gravel and sand are convenient, the cement floor will cost less than plank. As to durability, there seems to be no limit to the wear of the cement, and men who have used it for years say that they believe it will last an ordinary lifetime without needing repairs, and stables which I have visited, which have been in constant use for more years than would have worn out a plank floor, show no signs of wear. My neighbors who have plank floors all agree in the statement that they can be used only two or three years without repairs, and must be renewed once in five or six years. It is just four years since I built a new barn, and I selected good seasoned lumber for the floors of the stalls, but every stall was in need of repairs last fall, and some of them scarcely usable. I began substituting concrete last fall, and as fast as my floors give out, shall replace them with it until all my stables are floored in this way.

A neighbor floored a stable 15 feet wide and 44 feet long last autumn, and reports to me that he has a first-class job, and his material cost \$33. He used eight barrels of common cement for the foundation, which cost \$1.50 per barrel, and six barrels of Portland cement for the finishing coat, which cost \$3.50 per barrel. The first or foundation coat was made by mixing one barrel of common (Louisville) cement with five times its bulk of broken stone or gravel from which the sand has been screened; mix it dry, and shovel or rake it over until thoroughly mixed. Screened gravel will answer, but broken stone, no place larger than an egg, is better, as the angular pieces of stone will bind together better. If the stone costs more trouble than the gravel, the latter will answer, but I should prefer to have at least one-third broken stone. This should be wet up and mixed until every pebble or

piece of stone is coated with the cement; then put it down in layers of about two inches at a time, and tamp it until perfectly solid. A broad-faced rammer should be used, and the foundation, when done, should be six inches thick. On putting it down, use a spirit-level and straight-edge and establish your grades.

Horse Gossip.

LORETTA F. will be on the track this season, as good as ever.

BUD DOBLE has arrived at the Detroit track with a stable of 27 trotters and pacers.

SPRACUE GOLDSBURY, by Gov. Sprague 2:30 1/2, and out of Lucille Goldsbur 2:16 1/2, has got a mark of 2:27 1/2.

H. L. SHAMON, of Iowa, has been offered \$5,000 for his six-year-old Montgomery stallion Cleveland S., but refused it.

If you want a good Clydeale station you can get him on very reasonable terms, either in exchange for other stock or for cash, by addressing George A. Hart, Manistee, Mich. See advertisement.

SECOND payments will be due on Monday in Special Stakes Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, to be trotted for at the annual meeting of the National Association of Trotting-Horse Breeders, to be held at Detroit on September 3, 4, 5 and 6.

WHITE STOCKINGS trotted a mile and repeat at Terre Haute, Ind., in 2:38—2:17 1/2 on June 15th, in an attempt to reduce his record. The second mile is the fastest ever trotted in Indiana. This is the horse bought out of a carload shipped from the west, and of unknown breeding. He is a game as well as a fast horse.

THE Detroit Driving Club have arranged a series of contests for the afternoon of Thursday, July 4. The meeting will be conducted under the rules of the American Trotting Association. Among the notable events will be the 224 class, and an attempt at record breaking by the pacer Johnston 2:06 1/2. The free-for-all race will bring out a number of fast ones. The entries close on Monday.

HANOVER, whose racing days were thought to be over, astonished everybody by winning the Coney Island Cup over the Sheephead Bay course on Tuesday last, with that great mare, Firenze, in the field. The race was a mile and a half, and was won by Hanover in 2:35 3/5, Firenze second and Marauder third. The Dwyer Brothers own Hanover, but were afraid to put any money on him.

THE Lansing meeting, which opened at the grounds of the Central Michigan Agricultural Society on Tuesday last, had a good list of entries, and drew large crowds each day. The 3:15 race the first day was won by Prince Cadmus in straight heats: time 2:54 1/2, 2:41, 2:42. The 2:30 race was also won in straight heats by Cleveland S., Peter K. second and Beverly K. third. Time, 2:35, 2:30 1/2, 2:30 1/2. Cleveland S. is a son of Montgomery, and is likely to be heard from frequently this season. He has more speed ready whenever it is wanted by his owner.

THE Chicago Horseman remarks: "Michigan sustains its reputation as a nursery of the best trotting stock in the line of stallions. Jerome Turner 2:15 1/2, and Jerome Eddy 2:16 1/2, were bred there; Black Cloud 2:17 1/2, and Mambrino Gift 2:20, were raised and developed in that State. Last season the five-year-old Junemont 2:15 1/2 was invincible at home, and won a great race in the Grand Circuit. This year another five-year-old, Cleveland S., gives notice that Junemont must look to his laurels. In the free-for-all race at Three Rivers he made the first turn of the track in 1:10, and it is whispered could have gone the other half at the same rate. This horse stands 15 1/2 hands high, weighs about 1,000 pounds, is a long, rapid strider, and moves like his sire, Montgomery 2:21 1/2, but has a more perfect gait. He is a bright bay, with star, wears three-ounce toe-weights and light shoes. He does nothing but trot, and my informant says: 'You can count him on the back with impunity. His owner is crazy about him.' The last remark tells the story. If his friends wish to bring the owner back to reason let them persuade him to secure a nomination for the Great National Stallion race to be trotted for at Beacon Park, Boston, in September next. There Cleveland S. will meet stallions to the right of him, stallions to the left of him, and stallions younger, which will test his speed and gameness to the utmost. Cleveland S. was bred by Montgomery 2:21 1/2, owned at Iowa, dam given as by Tippo Sals, a son of Long Island Black Hawk. But we can't find any such horse. Tippo Sals, by Brooks' New York Black Hawk. Is the only horse which would answer. There are only five Tippo Sals, but all of them except the one referred to were born too early to have a daughter living. The family runs to the thoroughbred Tippo Sals, a son of Imported Messenger, and out of an imported thoroughbred mare.

The Farm.

Reclaiming Exhausted Soils.

A worn-out, sandy soil, if so located that it has a money value, is the most hopeless problem for the farmer bent on making soil fertile. The very first thing such soil needs is an increase of vegetable matter. Without this mineral and even barnyard manures have little permanent effect. In a pure sand above and beneath, the stable manure burns out, and the mineral fertilizer almost at once reverts to some insoluble form and does no good. If clover can be made to grow on sandy soil, that is the best of all renovators; but millions of acres have been exhausted beyond even the power of clover to restore to productivity. For such land the only remedy at first applicable is to sow some kind of grain, oats or barley in early spring, plow it under quickly, and sow more. In this way, during a single season, enough vegetable matter may be gathered in the soil to warrant a sowing of rye in the fall, and seeding with clover the following spring. It costs considerable to waste two or three valuable seedings of oats or barley to be plowed under as green manure, but this is doubtless cheaper than to let the land remain without vegetable matter, and without the possibility of growing clover, the cheapest and best soil renovator.

The great bulk of farm land can be much more cheaply reclaimed. Underdraining is expensive, but happy is the man whose farm needs to be underdrained. Its excess of wetness is the sign that it has not been badly exhausted, and when the underdraining is

done it will be the most valuable land in the neighborhood. We never feel like commiserating a farmer who has a wet farm. The vegetable matter which the owners of sandy and gravelly soils vainly long for fills his soil, and he has only to remove surplus water to make its fertility available.

Commercial fertilizers are sometimes used in improving worn-out farms. Wherever they pay on the present crop use them by all means. What the farmer on poor land most needs is larger crops, however they may be produced. If he has the crop he can feed it and make manure. Still more advantageous is the fertilizer if clover is sown with it and it insures a good catch. Then a considerable portion of the fertilizer goes to make clover, which is the best renovator of the soil that the farmer knows. Grass and clover, and more especially clover, are the means whereby American farmers must increase the fertility of their soil.—*American Cultivator*.

How Many Sheep Per Acre.

The question has been asked us, how many sheep can be maintained per acre on a farm as a specialty. We have submitted the question to several persons having some experience in keeping sheep. Those who have answered have agreed generally that the large breeds require more food to maintain them in good condition than the smaller, or Merino breed, which weigh only about 100 pounds. Two reply that light average sized sheep require about the same amount to keep them that one cow does. Another says that he has found that with large Shropshire grades that will average eight to nine pounds of wool per fleece, and weighing 130 to 150 lbs. each, are as seven to eight to one cow in the food to keep them. Now it is estimated that the product of two acres of what we call good land in Indiana will keep one cow under the pasture and dry feed methods of farming. So by these statements it is seen that the product of one acre of good land will keep four head of sheep per year. This is on the assumption that the pasture season is a fair average one. With these facts one may readily estimate the profitability of sheep farming on our fairly good lands. Considering that flocks of large breeds may and do average seven pounds to the fleece, and that about 90 per cent. of the increase is saved, it will be found that there is profit in sheep husbandry. The value of sheep as fertilizers of course must be taken into the count.

But a new era has dawned in live stock farming, and its advantages are as great in sheep husbandry as in other stock. We refer to the silo and ensilage feeding. The noted dairyman of Wisconsin, Hon. Hiram Smith, says that he fully believes that with this new method of stock farming one acre of good land may be made to keep a cow. If it will, then the products of one acre may easily keep seven to eight head of sheep, for it has been found that ensilage may be fed to sheep with most excellent results. A gentleman who has tested this matter says:

"The effect of feeding ensilage to sheep is very gratifying in the past few years, and feeding it to cows is as excellent as feeding cows with it. They were in splendid condition at lambing time, and I never saw healthier or more thrifty lambs. I fed all my sheep corn ensilage and some hay daily, but they very much preferred the silage. After over two years' practice, I find them more thrifty and healthy than my flock ever was before, and I think that I can keep nearly double the number of sheep on the same quantity of land I could in the old way of them."

There ought to be hundreds of silos built in Indiana this year. The beef and sheep growers, as well as the dairyman who fail to catch on to this new method, will soon find themselves distanced by those who do.—*Indiana Farmer*.

Wheat Experiment.

Prof. Blount, of the Colorado Agricultural College, who has made a study of the habits and needs of the wheat plant, recently conducted a series of experiments which seem to show that our method of raising wheat is far from being the best. He planted upon an exact square acre seven and one-third pounds of hard-picked wheat in rows of eighteen inches apart, and at harvest threshed out sixty-seven bushels; again, upon one-fourth of an acre he planted thirty-two ounces of selected seed, and the product was sixteen bushels; and again seventy-five kernels of extra fine seed, weighing one and one-half pounds, or nearly at the rate of one hundred bushels per acre. Farmers usually strive to get over as much ground as possible, thinking that if they get their eight acres a day planted they have done their part, and if they don't get a good crop they blame nature. If they would devote the same time to the cultivation of one-fourth of their present acreage they would most likely obtain much better results. But of course there would be few who would obtain as remarkable results as Professor Blount has; however, they could save considerable space and seed. The Professor estimates that fifty million bushels of wheat are annually wasted in planting, and it is not only wasted but decreases the yield.

Wastefulness of Fallowing.

It is within the memory of some not very old men when the summer fallow was the common method of preparing ground for the winter wheat crop, where this was extensively grown. The fallowing insured a larger crop, and it was in those times reckoned cheaper to give the use of the land for a year than to employ the extra labor and manure required to fit the seed bed in a shorter period. The month of June was the time usually fixed for plowing the land. It was then laid by or occasionally cultivated, as the case might be, until the seeding time in September. Under a hot summer's sun vegetable matter in the soil burned up, and the ash furnished the requisite mineral fertilizer that the wheat crop needed.

Something like a suspicion of the wastefulness of this method of manuring was probably the chief reason for its abandonment. It was found after a while that even the plowing in of a grain crop for the fallow did not produce the grain crop it used to do. It made a large straw growth, but the grain was there not unless stable manures or mineral fertilizers were added. But with either of these, good wheat crops could be grown after spring grain, the main difficulty being to get the soil in proper mechanical condition in a few weeks. As often managed, even for this end, the stubble seed bed was firmer below and more thoroughly mellowed near the surface than the fallow. In very weedy land the fallow, if kept clean, was almost necessarily mellowed to greater depth than was for the good of the crop.

Vegetable matter that has first passed through animals in their excrement is better suited for immediate use by crops than in its original condition. It decomposes more rapidly, occupies less bulk, and therefore acts more powerfully. Of course in feeding there is some loss of manure value; but it is not nearly so much as the loss of nutritive value where green herbage is plowed under without feeding it. In some kinds of plants the manure value is very small, while the nutritive value is large. Corn is one of these. It is not a perfect food, because to eat it must have large additions of nitrogenous and phosphoric elements; but combined with these in wheat bran, oil meal or cotton-seed meal, it is worth much more to feed than to use it in its crude state as manure.

We have yet to learn of a satisfactory or profitable experiment with plowing under growing corn at any stage of growth as a fertilizer. It cannot get large bulk except in the fall. Then if grown thickly, so that its leaves are pale white, it is of little use for feeding and none at all as a manure. The

only crop that can be put on after it is winter wheat, and it makes the soil too porous and light for that. In our climate the green corn remains soaked with water under the furrows through winter, producing humic acid, which is poisonous to almost any kind of vegetables excepting moss and lichens. Wheat roots rot off over such a festering mass of sour stuff, and the crop is an entire failure. Nor will clover or grass seed make a good catch on such land in the spring.

There is this to be said of plowing under clover, that it contains more of plant food and of greater variety than any other green herbage. It is also usually plowed under early enough to be of use in growing a crop during the same season. As thus used, to grow potatoes or corn to be followed by winter wheat in the fall, clover may prove profitable. But if the land is to be uncropped until seeded with wheat, cut the clover, make it into hay and feed it to stock rather than plow it under the furrow. The roots of clover constitute a large part of its manure value. They will furnish as much moisture as it is profitable to apply in manure, and the manure made from feeding clover hay will be worth more for some subsequent crop of wheat or corn than it would if left to rot as green clover, under the furrow, for wheat.—*Am. Cultivator*.

Selection of a Stock Bull.

An English writer, Mr. Clement Stephenson, gives the following description of the points of a good stock bull:

"If a breeder is determined to keep up a uniform standard of excellence in his herd, and, if possible, still further improve it, no more important subject can occupy his attention than the selection of a stock bull."

"Many a moderate herd has been greatly improved and increased in value by the use of a really good bull, and many a good herd has been spoiled and reduced in value by a moderate one."

"In selecting a bull, we have first individual merit to consider, and then pedigree, but no amount of the latter will compensate for deficiency in the former."

"He must be true to the best type of his particular breed—sound and robust in constitution and well-grown for his age. By well-grown I don't mean high on the leg, but wide, deep and long, standing on short and well-set legs. Particular attention should be paid to his hocks, for many a good bull is rendered useless by bad hocks. He should have a good muscular (flesh) development in the right places. Straight top and bottom line, with broad deep chest and good fore ribs. His eye and general count should denote good temper, and the skin be mellow and moderately thick—avoid thin-skinned ones. Make of apparatus; a simple tank twenty-four inches deep and with surface enough to receive the number of pails required, with a supply of pure water, to be frequently renewed, and ice for cooling, and a convenient dairy house, are all that is required for the successful working of the system. The system itself is not patented, but most of the different styles of pails with attachments are protected in this way.—*Pennsylvania Dairyman*.

"The next thing is pedigree. Not only see that it contains no impurity, but that the recorded ancestors were, as far as known, good animals, if prize-winners, all the better. Find out, if you can, whether they were regular good breeders, and lived to a good old age, for nothing is more hereditary."

"If everything is satisfactory, don't begrudge the price, and, if after a trial his stock are satisfactory, don't be tempted by price to part with him."

Horticultural Items.

A MAN who began to sell green peas on the 7th of June says he finds no variety so early and so productive as the Kentish Invicta.

Up to June 8, the cherry districts of Alameda County, Cal., had shipped 14 carloads of cherries to the East. This amounts to about 217,000 pounds of fruit.

ONE cause for mildew on gooseberries, grapes, etc., is too thick foliage or being grown with too thick tops. Thin out thoroughly and you will prevent mildew to a great extent.

GEORGE HILL, of Arlington, near Boston, Mass., grew Sharpshoot strawberries this year, 20 of which filled a quart basket, and found ready market at 40 cents when other fruit brought 20 cents.

A CORRESPONDENT of the N. E. Farmer uses tobacco stems as a preventive of the asparagus beetle. In the spring he opened furrows in the rows and put in the tobacco stems, closing them again with the plow.

A WELL-KNOWN horticulturist says fruit-growers make a mistake when they grade their grapes to produce beautiful looking but insipid and flavorless fruit for an empty market. Buyers are only "put out of taste" with fruit by this immature product.

JAMES NIXON, of Denison, Texas, originated a new variety of strawberry, which, if it proves equal, on extended trial, to what is expected of it through its early promise, will be named Parker Earle. Just call it the Earle, for brevity's sake.

ANYTHING in the nature of lye will destroy the apple tree borer or the young borers before they penetrate the bark very far; but after the borer is once under the bark, following it up with a wire is the only way to destroy it.—*Germantown Telegraph*.

SOME raisin farmers who went from Spain to Buenos Ayres, say soil, water and climate of that country, in some sections, are identical with those of Malaga, and hence have begun the cultivation of raisins. Thousands of cuttings have been shipped to Buenos Ayres, and a considerable acreage set to raise grapes.

THE California Fruit Grower says the much dreaded vine disease is making its way from Anaheim into the more southern vineyards of the State. It has made its appearance at San Bernardino and Riverside. The disease seems to be a microscopic fungus which penetrates the tissues of the vine. In Los Angeles County thousands of acres have been destroyed.

A CORRESPONDENT of the Country Gentleman says: "The black flea was repulsed this season with only one dose of air-slaked lime and turpentine applied immediately after the cabbage plants were set out; only a few specimens were afterwards found. I believe that if this were always and thoroughly done, preventing the flea getting a foothold, it would generally be found sufficient, unless the application is removed by wind or rain soon after setting out the plants."

water, and in this way a cellar or milk room may soon be dried even in the hottest weather. If a cellar has a damp smell and cannot be thoroughly ventilated, a few trays of charcoal set around on the floor, shelves and ledges will make the air pure and sweet. If a large basketful of charcoal be placed in a damp cellar where milk is kept, there will be no danger of its becoming tainted.—*Rural World*.

Fresh Cabbage the Year Round.

For winter and spring use the Sure-head cabbage is the best variety to raise. It will mature planted any time in June. It is rightly named, and the heads are always solid. They may be known by their having a protuberance at the apex, something in form like that on an acorn. Properly buried for winter, one can have cabbage all the year round, for the Sure-head cabbage will last until the time for early cabbage. Late in the fall it should be placed in a trench, feet down, but the feet should not be covered with soil, for that will cause some of the heads to burst. Cover the heads with a little straw and a foot of earth on top.

When all is frozen solid put on a foot of straw (buckwheat chaff is best), and leave till winter. The straw prevents the earth thawing till late in the spring, and sound, crisp cabbage is assured till near June. This method is on the cold storage principle. A trench of cabbage had been overlooked, and in plowing the field the last day of May heads were thrown out as sound as when put in, and it bids fair to last, in a cool place, till July. In the same trench were those of the Flat Dutch and Winnegstad varieties, but all had entirely decayed, and the Sure-heads were sound, every one of them.—*Galen Wilson, in N. Y. Tribune*.

Cold Setting for Cream.

The success of the so-called creameries is based on the principle that cream rises more rapidly when the milk is at a low temperature, 45 degrees or less. The cooling is effected by setting the milk in deep, narrow pails of tin, the usual size being twenty inches deep and eight or nine inches in diameter, holding about 30 pounds of milk. The pails are set in tanks of water cooled by ice, hence an ice supply is indispensable. The method has been borrowed from the Swedish dairies, in which cold setting has been used many years. Any one of the various methods employed is a great advance upon the old common practice. Less space is needed, as thirty pounds of milk require no more than eighty-one square inches of surface, while with shallow pans this quantity would require at least 500 square inches. It is not necessary to use any particular make of apparatus; a simple tank twenty-four inches deep and with surface enough to receive the number of pails required, with a supply of pure water, to be frequently renewed, and ice for cooling, and a convenient dairy house, are all that is required for the successful working of the system. The system itself is not patented, but most of the different styles of pails with attachments are protected in this way.—*Pennsylvania Dairyman*.

Eggs in the Market.

It is a shame that farmers will send eggs to market at the age so many are. Many are two months old and are in a terrible condition. We were recently asked by a restaurant what was the cause of so many eggs having a blood red vein in the yolk. Yankee fashion, we answered the question by propounding one: "Where do you get your eggs?" "Oh Farmer X; he brings us eggs every month." We saw through the whole thing. Farmer X has an egg tester. After setting a hen, every egg that has a dead germ in it (which causes the red vein referred to) he puts in with his market eggs, and these are what our inquirer bought. We say it is a shame! Very often a farmer will go about his field and all of a sudden come across a hen's nest with a dozen or more eggs in it. Perhaps incubation has started in some of them. But the farmer don't know it—he don't want to know it—and in they go in the egg basket and carted off to market. Take the ordinary farmer who keeps chickens on a "go-as-you-please" plan, and we warrant that it is not safe to open an egg into batter without having first put it in a cup and given it a thorough examination.

If farmers would take a special pride in their poultry, follow the advice given by persons who have some experience, date the eggs and give ironclad proof of the oldest egg not being a week old, we dare say a trade could be established at prices way above those of the regular market.—*Germantown Telegraph*.

Keeping Eggs.

Eggs through the summer months, I think, as far as the profit is concerned, ought to be used as economically as when they are worth 25 to 50 cents per dozen.

I put down 100 dozen fresh eggs, picked up every day two years ago, packed them in coarse barrel salt, beginning the first of August. I wrapped each egg with paper, twisting the ends, and packed the eggs with the little end down. I sold them the last of December for 30 cents per dozen.

I left three eggs in the salt as an experiment, and forgot all about them until the next September, one year and one month, when I took them out. They were clear to look at as they were the day they were put down, and when they were broken they were as fresh, except having dried down a little. The paper keeps the salt from the eggs, and when taken out carefully they cannot be told from fresh eggs if they have not been packed more than eight months.—*Ez*.

A KANSAS man asserts that with eggs at eleven cents a dozen there is more money in feeding grain to hens than to any other class of stock. Get a non-sitting breed, care for them as sensibly and with as much of a purpose to make it pay as other farm stock, and there is money in poultry.

You might as well try to keep the ten commandments as to do all those things recommended by ye poultry papers. Do all your great ministers do all they preach? Nixy. A man or woman not absolutely engaged in poultry keeping can not possibly attend to all the details suggested, so do the best you can, but cleanliness is the key to success.—*Orange County Farmer*.

NEVER put the young chicks near the laying fowls, advises the *Germantown Telegraph*, or else the number is apt to decrease and the blame will be put upon some innocent rat who did not happen to be around. Old fowls are very apt to kill young chicks. Some hen mothers are very savage towards intruding young. Only recently a chick from a neighboring coop came over to a Wyandotte and her young, and before it could be rescued the old hen killed it. Then again, we have hens that are very peaceable toward the young of others; but the safest plan is not to let the young near any probable enemy, then there will be safety all around.

A CORRESPONDENT of the Canadian Horticulturist, who writes from Russia, says Prof. Budd's visit to that country to procure varieties of Russian fruits for culture in the United States has resulted in directing more attention to native fruits, and that varieties, no-mendicature, etc., are better understood than at

the period of Prof. Budd's visit. He also points out that Prof. Budd made the mistake of being advised in his selection, only by Dr. Regel, of St. Petersburg, a distinguished biologist but a mediocre fruit-grower. Many better varieties are found in Russia than were introduced into America, both of apples or pears.

The Poultry Yard.

How to Raise Turkeys.

Keep the turkey hens tame by feeding them close to the house. Have two or three barrels in sheltered corners containing plenty of straw or leaves for them to lay in. Gather the eggs every evening, as turkey eggs are very easily chilled. Keep the eggs in a wooden cloth on end and turn them every three days. Set the first seven eggs under a chicken hen, as they get too old before the turkey hen will go to sitting. Make a board pen ten or twelve feet square and twelve or fourteen inches high. Put a coop in it and put your hen and turkeys in it. Feed the hen corn, and the turkeys soaked wheat bread (corn meal will kill them), until they are a week old (I feed five or six times a day). Then feed wheat until they are big enough to eat corn. Give plenty of fresh water in a shallow vessel. Keep the mother in the pen until they are large enough to fly over the top of the boards. Let them out a while about the middle of the day. Shut them in at night. A turkey hen does not like to be shut up, but have a good big coop for her and she will go in. Don't let the little turkeys get their backs wet until they are feathered. The turkey hen will set down when night comes just where she happens to be, but if you drive her home a few times she will come herself after that. Always feed them when they come home, no matter if they are full of "hoppers." Have your No. 2 pen in the orchard under an apple tree where it is shady. Have the turkey hen's pen close to the chicken hen's pen, that when the chicken hen weans her turkeys they will soon learn to go with the turkey hen. Give them a dose of black pepper in their feed every cold rain. And never, no, never get excited and in a hurry while working with turkeys if you don't want them to get wild and fly all over the plantation. Three or four weeks before selling, feed all the corn they will eat.—*N. E. Farmer*.

It is a shame that farmers will send eggs to market at the age so many are. Many are two months old and are in a terrible condition. We were recently asked by a restaurant what was the cause of so many eggs having a blood red vein in the yolk. Yankee fashion, we answered the question by propounding one: "Where do you get your eggs?" "Oh Farmer X; he brings us eggs every month." We saw through the whole thing. Farmer X has an egg tester. After setting a hen, every egg that has a dead germ in it (which causes the red vein referred to) he puts in with his market eggs, and these are what our inquirer bought. We say it is a shame! Very often a farmer will go about his field and all of a sudden come across a hen's nest with a dozen or more eggs in it. Perhaps incubation has started in some of them. But the farmer don't know it—he don't want to know it—and in they go in the egg basket and carted off to market. Take the ordinary farmer who keeps chickens on a "go-as-you-please" plan, and we warrant that it is not safe to open an egg into batter without having first put it in a cup and given it a thorough examination.

If farmers would take a special pride in their poultry, follow the advice given by persons who have some experience, date the eggs and give ironclad proof of the oldest egg not being a week old, we dare say a trade could be established at prices way above those of the regular market.—*Germantown Telegraph*.

Eggs through the summer months, I think, as far as the profit is concerned, ought to be used as economically as when they are worth 25 to 50 cents per dozen.

I put down 100 dozen fresh eggs, picked up every day two years ago, packed them in coarse barrel salt, beginning the first of August. I wrapped each egg with paper, twisting the ends, and packed the eggs with the little end down. I sold them the last of December for 30 cents per dozen.

I left three eggs in the salt as an experiment, and forgot all about them until the next September, one year and one month, when I took them out. They were clear to look at as they were the day they were put down, and when they were broken they were as fresh, except having dried down a little. The paper keeps the salt from the eggs, and when taken out carefully they cannot be told from fresh eggs if they have not been packed more than eight months.—*Ez*.

A KANSAS man asserts that with eggs at eleven cents a dozen there is more money in feeding grain to hens than to any other class of stock. Get a non-sitting breed, care for them as sensibly and with as much of a purpose to make it pay as other farm stock, and there is money in poultry.

You might as well try to keep the ten commandments as to do all those things recommended by ye poultry papers. Do all your great ministers do all they preach? Nixy. A man or woman not absolutely engaged in poultry keeping can not possibly attend to all the details suggested, so do the best you can, but cleanliness is the key to success.—*Orange County Farmer*.

NEVER put the young chicks near the laying fowls, advises the *Germantown Telegraph*, or else the number is apt to decrease and the blame will be put upon some innocent rat who did not happen to be around. Old fowls are very apt to kill young chicks. Some hen mothers are very savage towards intruding young. Only recently a chick from a neighboring coop came over to a Wyandotte and her young, and before it could be rescued the old hen killed it. Then again, we have hens that are very peaceable toward the young of others; but the safest plan is not to let the young near any probable enemy, then there will be safety all around.

A CORRESPONDENT of the Canadian Horticulturist, who writes from Russia, says Prof. Budd's visit to that country to procure varieties of Russian fruits for culture in the United States has resulted in directing more attention to native fruits, and that varieties, no-mendicature, etc., are better understood than at

the period of Prof. Budd's visit. He also points out that Prof. Budd made the mistake of being advised in his selection, only by Dr. Regel, of St. Petersburg, a distinguished biologist but a mediocre fruit-grower. Many better varieties are found in Russia than were introduced into America, both of apples

Horticultural.

Fertilizing Strawberries.

Geo. Q. Dow, in the *Massachusetts Ploughman*, says:

In preparing land for strawberries I should adopt very different courses for different kinds of manure used, and I believe by so doing there is a decided advantage to be gained. If I was using barnyard or stable manure, I should apply a heavy dressing to the ground immediately after plowing and then work it thoroughly into the soil with a smoothing harrow. What do I mean by a heavy dressing? Well I would put on enough to cover the ground entirely so you could not see the soil anywhere. That is enough for land that is fairly fertile.

But if I was dependent entirely upon commercial fertilizers I should adopt a very different course. I should of course plow the land well, and then should immediately harrow it with a disc harrow and smooth it up, mark it out and set my plants before applying any fertilizer. The plants do not require it at first as it will take them two weeks to get a start or good hold upon the soil, which they will do upon good land, and no other fertilizer would be necessary. They will do better without the fertilizer than with it, as the strong fertilizer is too apt to eat or kill the roots of a plant before it gets started. At the same time I began my first cultivating and hoeing, say two weeks after setting the plants, I should begin my manuring or feeding the plants.

After cultivation, go along each row and spread your fertilizer all along the row, and around the plants. They are in a condition now to need nourishment. They have begun to get hungry and a little good fertilizer at this time goes a long way and at just the time it is needed. The plants are ready to take it up and get the benefit of every ounce you put on. After spreading the fertilizer go on and cultivate, afterwards giving them a careful hoeing. By these two operations you mix the fertilizer thoroughly with the top soil above the roots and its goodness is soon worked or washed down to the roots and the plants immediately take it up. In about a week or ten days repeat the operation, and so on through the season until your plants have the growth and you cease to cultivate. By so doing your plants are only fed when they need it, and they need it, and a constant and rapid growth is kept up, and you have received full value for every dollar's worth of fertilizer used.

None is wasted. If all is applied at once before planting such a quantity must be used as to kill your plants or many of them. Much is lost by early rains carrying it off or below your roots and its value and strength is gone long before your plants have ceased to grow, whereas the other way your plants are constantly receiving fresh food.

Packing and Shipping Nursery Stock.

N. H. Albaugh read a paper on this subject before the American Nursery Association, in which he said:

Three requisites are: Pack so as to preserve the life of the tree; pack so compactly as possible, so as to economize space; and pack so as to save weight in shipping.

The first is the most important. Trees, as fast as dug, should be potted and heeled in, where they may remain weeks if necessary. Every time trees are moved from one part of the packing ground to another, they ought to be passed through the potted.

In all packing, some material must be used that will retain moisture a long time. Nothing yet discovered equals the lake or swamp moss, and when this is brought in, sufficient quantity, in direct contact with the roots and secured there, all is safe.

If less than a carload is shipped, and to large planters, or to other nurserymen, boxing is generally preferable if properly done. In carlots, stock can be safely and securely packed in bulk, putting ten or twenty trees in a bunch, using plenty of moss or damp straw, and thoroughly wetting up the trees when loading them.

In delivering to retail customers, there are advantages in packing each order separately, in bale, potted well, using plenty of wet moss among the roots, making the bundles very compact, covering the bodies with rye straw or other long packing material, and sewing burlap over the roots to keep the moss in place. Trees so packed will keep in perfect order for weeks, and are much safer, at delivery in the hands of the ordinary farmer-planter, than are open bundles.

Mr. Albaugh had seen trees delivered from boxes to farmers, where the trees were thrown bare, into the wagon bed, the farmer then spending hours in trading in stores, while the warm sun was beating down upon the naked roots, then driving a dozen miles or more to his home, unloading the trees in the barn lot after dark, and leaving trees unprotected during the night, when a heavy frost occurred, falling upon the bare roots; and then, when his trees died after being wet, he denounced the whole tribe of dealers and nurserymen as swindlers and frauds.

When trees are shipped to farmers, it is probably safest to box them, either after having them first properly baled, or packed loose, as may best suit the fancy or pocket of the shipper.

In packing in boxes, great care should be taken to pack compactly, filling every available space, as loose packing in a box is not much better than to ship without any packing at all, being much more likely to dry out when loosely packed. Some form of press is almost indispensable to close packing in boxes.

The securing of a lower freight rate on boxed trees is certainly the correcting of a great injustice, as there is always a waste of space in box packing, and the cost of the boxes wholly or partly lost.

It is generally cheaper, and the transit is quicker, to choose routes with the fewest transfers, as a change from one road to another almost always consumes more time than 100 miles farther with less change of roads.

To sum up: Handle trees from the time they leave the ground as though they were things of life, and on no account allow them to leave the nursery packed in a way that they will not keep safely a month, for no one knows the day or the hour when a railroad train comes.

At the close of the paper Prof. Budd, of

Iowa, referred to the matter of puddling. It is all right, if properly done with the right kind of a puddle. If the puddle is of clay, and it partly dries before the trees are planted, it forms an impervious coating over the roots that prevents the moisture from reaching them, and death is the result. In such cases the puddle ought to be washed off before the trees are planted.

R. Douglas, of Illinois, said that a clay puddle would kill the trees, as it dries into a "crockery" covering over the roots that keeps out the moisture. Black, mucky soil makes a good puddle. Small trees never need puddling. Too many use too much water in packing trees. More trees are killed from being packed too wet than from lack of moisture.

Cherry Grafting.

In an article upon the subject of grafting, Prof. J. L. Budd, of Iowa, says: "When a few essential conditions are regarded, I have found the cherry quite as easy to graft as the apple. The main requisite in top working is to have the cell structure of stock and scion in the same condition. To secure the desired stock we must graft early, yet the success will hinge upon the condition of the scion. On this same principle we can graft the cherry when the buds have started in the spring if we cut the scions as needed from trees about equally started. As to root grafting, the same principle holds and scions must be in about the same condition as to starting circulation. If both are in the dormant condition and the root grafts are kept in a cold cellar where they will not start until they are set in nursery, nearly all will grow. The past summer, we saved 95 per cent of all the cherry root grafts put out."

Potash for Asparagus.

The last of the season's asparagus having been gathered, it is the proper time to apply manure for the benefit of next year's crop. Experienced gardeners and intelligent amateurs need not be reminded that in order to get quick and large growth above ground there must be a strong development below. For vigorous root development there are several essentials, prominent among them, broad space for the roots and plenty of the right kind of plant food for them to assimilate or feed upon. To produce the best asparagus, a good, strong, well-drained soil is best, but any soil may be made rich enough; and possibly where earliness is the first thing to be considered, a sandy or gravelly soil is preferable to a clay loam, or even a sandy one. Four feet apart from any other plant is none too far, for if three rows only are planted four feet apart, the other rows yield the largest and best shoots. Night soil and butchery offal, highly nitrogenous and very offensive manure, liberally and persistently applied produce enormous crops of large asparagus, but with the fatal defect of the delicate palate that there is in the rank growth a slight flavor of the matter the plants were fed upon. But there are other fertilizers which will feed the roots so that they will send up shoots as quickly, as tender, and as large as the offensive ones named, and among these are tobacco stems and a solution of silicate of potash.

Of the stems it is only necessary to say that they should be spread over the surface of the bed from five to six inches thick as soon as the crop is off. The silicate should be applied in the form of a weak solution—10 lbs. to the barrel or 40 gallons of water, a gallon weekly during the growing season of each plant, if the best results are aimed at. Asparagus roots fed with these fertilizers produce as rapid a growth of large and tender shoots as those nourished on night soil, putrid meat and other abominations, with the advantage that the delicate flavor of the vegetable is preserved at its best. Perhaps some asparagus which I raised this year would not attract attention in New York market by its size and general appearance, though shoots seven to eight inches long, and three-fourths to an inch in diameter, were the average results of the growth of twenty-four hours. These shoots after cooking thirty minutes were as tender and delicately flavored as young peas. In conclusion let me warn experimenters against being imposed upon by accepting silicate of soda, a very different thing, and a cheaper substance much used in the arts, but of almost no account as a fertilizer for potash plants. It might be added that since the only purpose of the silicate of potash in this mixture can be to supply potash for the crop, and it is not easy to get of good quality, and is by no means easily made, the chloride of potash, supplying the same plant nutrient in a no less soluble form, being easily obtained, is worth trying as a substitute.—B. F. Johnson.

Simple Requisites for Quinces.

Poor result with this valuable fruit is generally due to inattention to its few needs. As a stunted tree cannot produce perfect fruit, the first effort should be to infuse health and vigor. Starting with a thrifty young specimen, the annual increase of branches should never be retarded for a single season, and this is readily prevented by enriching the soil. The quince delights in strong food, and moisture, but soil that does not permit free passage of water from roots of trees will become sour, and thus produce ill-health, and, much as the quince loves moisture, it cannot endure a springy or boggy footing. Plow deeply and make the soil mellow, as the numerous fibres are particularly averse to hard cloddy ground. Barnyard manure and potash in some form is its especial delight; it is useless to undertake quince-culture without using these with a liberal hand. Salt, sparingly applied, has produced good result, but is a dangerous article in the hands of an ignorant person. Thorough cultivation for the first few years pays well, but once firmly established, all that will be necessary is the regular annual top-dressing of short manure or rich compost, with the addition of a little salt or unleached ashes. By no means means we secure large showy fruit, and this is just where the profit is in quinces.

In regard to pruning—use the knife sparingly. Very little cutting will answer. Thinning out the superfluous small twigs emboldens all the instruction needed. We must look to strong young shoots for best results; old, hard branches produce only inferior fruit. The most serious drawback to quince-culture results from the work of the borer, a larva well known to orchardists. Many preventives are recommended—such as encircling the body of the tree close to the

ground with paper, or other material; or in simply tarring the bark. If these pests are removed with a sharp-pointed knife regularly each year, very little is to be dreaded from their depredations. The little reddish-colored spots, with perhaps an accumulation of sawdust at the entrance, generally advertise the borer's home, and in its earlier stages it is easily found and killed. To renew vigor in an old quince tree, cut back severely all branches, and scrub the bark clean with ordinary thick soap-suds, or an emulsion of whale-oil soap. Loosen up the soil for some distance, and dig in short, well-rotted manure. In a year or two thereafter, the owner will be surprised at the crop of large fine fruit that his "worn-out" tree will produce. If the body be nearly eaten off by borers, nothing will rejuvenate it; a young and healthy tree must be substituted.—Josiah Hoopes.

Fighting Insect Enemies.

This matter is at present occupying the attention not only of the experiment stations, but of intelligent and progressive people generally. Popular Gardening devotes several pages to the matter; but I have felt a little surprise that almost all of them seem to give but little space to protection by means of arrangements for fencing the insects away. Of course this remedy can be applied only to small plants like melons, cucumbers, vines, etc. It is true some of them hint that boxes with mosquito netting tacked over the top will do; but it seems to me that mosquito netting is altogether too frail; besides, the Medina bugs have learned the trick of crawling through it. Nothing answers us with all the wire-cloth protectors which we devised last year, as mentioned in our catalogue. Granting that Paris green, pyrethrum, slug shot, or things of this sort will kill the striped melon-bug, you have to apply it as soon as the first plant is up. On our grounds the striped bug actually digged into the earth to meet our choice melons as they began to push through the soil; and very often the first leaves are eaten off before they are expanded; and to kill them with chemicals or poison you have to apply it as each leaf comes out; whereas the wire-cloth bug protector can be put on before the plants are up, if you choose, and it makes a sure thing of the whole business until the plants are big enough to raise the covering so as to stand over them like an umbrella. On our grounds we use altogether three or four hundred of them. The sight of the bright green fresh plants, with their first leaves without scar or blemish, is to me a real cause of rejoicing. We have frequently put the wire covering over a part of the hills and left some of the vines uncovered. The result is, that the first warm day we have, those outside of the enclosure are eaten up in a few hours, and where a leaf stretches up so as to touch the wire covering, a cluster of bugs station themselves on the wire cloth and gnaw the leaf as fast as it grows. I do like to have appliances that are sure and absolute, even if they cost some money.—Gleanings.

Raisins, Domestic and Imported.

At this time the article of raisins is attracting considerable attention at home and abroad. The supply of Malaga raisins at the east is exhausted. The available stock of Valencia raisins at the east has been successfully cornered and an effort was also made to concentrate California stocks, but it proved unsuccessful. Indications point to a small supply of raisins on hand for trade purposes during the four months intervening in the marketing of the new crop. Since January 19th, 1889, the receipts at the various ports of the United States have amounted to 20,565 quintals. These receipts prove to be somewhat in excess of the supposed supply at the date of first report; while the total crop has exceeded the figures of that report by 69,000 quintals. One of the noticeable features of the Valencia raisin pack has been its poor keeping quality. Complaints from this cause have been very general. Spanish exporters explain or attribute the cause in a large measure to the grapes being gathered before they were quite ripe, and that they were not allowed to remain a sufficient length of time on the curing ground. Growers fearful of being overtaken by bad weather hurried their raisins before they were thoroughly cured. The bad weather came as expected and did considerable damage. The causes above mentioned, and the storms and bad weather during August and September, resulted in about 10,000 tons of raisins being shipped to France and portions of Spain for pure purposes. The Malaga district, from whence the United States in years past has received as high as 1,300,000 boxes annually, supplied us last season with but 100,000 boxes. Reports from that section note but little if any improvement; in fact, good authorities claim that the ravages of the phylloxera and insect pests and vine diseases in and about the Malaga district, have so reduced the acreage that the yield in 1889 will be no more and probably less than in 1888, when they produced about 500,000 boxes.

California has an acreage sufficient to produce a very large crop of raisins grapes. A very large addition to our already large acreage was made during the season of '88 and '89 just past; upwards of 10,000 acres of raisin varieties were planted. This additional acreage will not come into full bearing and make itself felt for about five years or during the season of 1894. In the meantime new vineyards will constantly come into bearing and a gradual increase to the output may be expected annually. The most favorable reports are being received from the various raisin districts as regards the coming crop; but the raisin grape crop, like the eastern peach crop, is subject to many drawbacks, and it is pretty difficult to estimate the pack of raisins until after they are packed. Frosts occur in one section, rains in another, wind and sand storms in another, vine hoppers and pests in another, sunburn in another, so that each year it is safe to figure quite a percentage for loss from these causes. The most serious setback the raisin vineyards of any section have had, is in Los Angeles County, where the mysterious vine disease has destroyed thousands of acres, and continues unchecked and without a remedy. From present indications it is safe to place the raisin output of the State for the season of 1889 at 1,500,000 boxes. We mention above the causes, which do not prevail to any alarming extent in any one district, but which are generally distributed over the State, annually threatening the raisin crop,

so that a very large acreage does not always mean a very large yield of raisins. We have an acreage in bearing at the present time in the State of California, from which under the most favorable circumstances and all of the above drawbacks excepted, with favorable weather during the curing season, a possible output considerably in excess of 1,500,000 boxes could be made. This is not new vigor in an old quince tree, cut back severely all branches, and scrub the bark clean with ordinary thick soap-suds, or an emulsion of whale-oil soap. Loosen up the soil for some distance, and dig in short, well-rotted manure. In a year or two thereafter, the owner will be surprised at the crop of large fine fruit that his "worn-out" tree will produce. If the body be nearly eaten off by borers, nothing will rejuvenate it; a young and healthy tree must be substituted.—Josiah Hoopes.

Care for Currants.

President Smith, of the Wisconsin Horticultural Society, an extensive producer of vegetables and small fruits, and especially successful with currants, tells the *Farmers' Review* how he keeps his bushes in condition to yield "splendid crops" for many years: "Plant six feet apart each way on land previously made very rich. It is kept so by manuring annually. The bushes are kept thoroughly cultivated both ways, by horse and cultivator. In pruning, select from four to six of the strongest canes, not those that stand about perpendicular, but such as incline to grow out at an angle of 30 degrees or thereabout. These, of course, form branches, and in a few years, if properly cared for, the bushes, although six feet apart each way, about cover the ground. Nearly all the fruit grows on the outside of these spreading branches. If centre canes are allowed to grow, they bear little, and that little is quite indifferent as compared with that on the outside branches. Hence we keep the centre canes all cut out. After these strong canes have borne fruit for, say, five or six years, they cease to have as large crops or as nice fruit as in their younger days. To keep the bushes at their best, it is necessary to let strong and healthy canes grow up to take the place of the old ones. We do this, and then cut out the old canes, thus practically making a new bush every few years."

Where the Mushrooms are Grown.

A Chicago paper says the American Mushroom Company, with headquarters at that city, owns a big cave at Ulrica, a little town near Peru, Ill., sixty miles out. This large cave, covering an area of twenty acres, was partially improved by digging out many thousands of loads of sand, until the cave assumed its present aspect. To-day its bottom is level with the ground. There are arches overhead, and it is laid out so well that wagons can penetrate through its avenues, winding all around, and the excellent mushrooms grown are loaded on these wagons, ready for transfer by rail. From this cave mushrooms are sent all over the Union, especially to Chicago, New York and all the large cities. This cave virtually supplies the continent with fresh, delicious mushrooms, growing there all the year round, and in quantities to satisfy even the rapidly growing demand. The natural temperature in the cave is fifty-six degrees. This has been found, though, to be a little too cool. The mushrooms did not grow as fast nor as luxuriantly as was desirable, and thus the company, some time ago, put in steam pipes, and by that means is now in a position to regulate the temperature and always keep it at the point most conducive to mushroom culture—about sixty-five.

The company ships its mushrooms in neat baskets of about the same appearance as peach baskets and with a securely fastened perforated cover. The price of these mushrooms have been brought down in this city until there is almost no difference between Paris and Chicago. They vary between twenty-five and sixty cents per pound, and thus the company, some time ago, put in steam pipes, and by that means is now in a position to regulate the temperature and always keep it at the point most conducive to mushroom culture—about sixty-five.

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Agricultural Items.

POTATO vines in Monmouth County, N. J., are being destroyed by millipedes, or thousand-legged worms.

The Storrs School Experiment Station at Mansfield, Conn., raised sixty varieties of grasses and forage plants last year.

It is alleged that every New England creamery originally fitted with apparatus for deep setting has changed to the Cooley system. The same is true of many private dairymen.

CATERPILLARS are invading the northern part of Maine, and are as numerous as to bring trains to a standstill. In some places they are two inches thick on the tracks. They strip the country of every green thing as they go.

MORE than two million gallons of cotton seed oil are exported from the United States to Marseilles, France, every year. Half of this quantity is used in adulterating olive oil, which is re-imported into the United States as pure olive oil.

MME. EUPHROSINE CASSAVETTI has given to the Greek government land in Thessaly worth a million francs, to found a school of agriculture, fully equipped with the newest appliances. She also gave an endowment to engage scientific and practical agriculturists as teachers.

THERE are twenty-one million of horses in Russia. There are six breeding establishments under government control, which contain 81 stallions, 756 brood mares and 1,607 young stock. There are 62 race courses in that country, and 77 horse shows held annually. The Russian horses are smaller than ours, with long black manes and tails, well muscled and are good runners.

PROF. MOORE says: "The need of the hour is a force crop that can be harvested and handled by machinery; that will be as valuable as a good crop of timothy, clover, millet or corn fodder, and during the same year furnish a growth to be plowed under of equal value to a good crop of clover, millet or buckwheat; a crop that takes from the

free air and sunlight and gives to the soil. Such a crop is found in the earlier varieties of sorghum or sugar cane. Sown broadcast early in April, on ordinary prairie land, it is ready to cut in July, and will furnish from three to five tons of the choicest forage to the acre. Another growth at once starts from the stubble, and is ready for the mower or reaper by the middle of September, with an equal or better yield than the first, or better still is ready for the plow—to be turned under to reinvigorate the soil."

Apianian.

For the Michigan Farmer.
THE FIRST YEAR OF BEEKEEPING.

The Honey Flora of Northern Michigan.

As several have written me asking if I thought their locality adapted to beekeeping I have prepared the following, hoping it will aid many in judging for themselves. If one takes the time to observe and the trouble to enumerate them he will be astonished at the almost endless variety of honey yielding plants within the State. It would require a skilled botanist to name them all. The all-wise Father has provided nearly all trees and plants with either honey or pollen to attract the insect world. He spreads a continual feast for the bee that the important object of perfect fertilization may be more easily attained.

The bee that slips from flower to flower rollicking in the golden dust among the new born anthers, playing hide and seek in the opening corollas, is performing a work of untold value in the wise economy of nature.

The honey secreted in the blossom is for the purpose of inviting cross fertilization and to prevent in-and-in breeding. If no insect is there to utilize the drop of nectar it is evaporated and scattered to the four winds of heaven, no one is richer for the ungathered sweets; and no one is the poorer whose fields are searched by the tireless little worker whose instinct leads it to garner the evanescent riches which of a truth take to themselves wings and fly away.

From the trailing arbutus, that peeps out of the snow on some hillside, to the last frost flower in autumn there is almost a continual succession of honey producing flowers, whose wealth of nectar ought to be utilized as one of the resources of this grand State. California may occasionally astonish us with her magnificent honey crop, but in Michigan where "the early and latter rains" are not only promised but sent, we are always confident of a reasonable surplus. The pastures and roadsides are covered with white clover which yields the finest honey in the world. The rivers and lakes are generally skirted with basswood timber, one of the best honey producing trees in America, yielding a nectar that is prized for its beautiful amber color and aromatic flavor. Every fence corner and neglected field is planted by the hand of nature as though she were trying in some way to counteract man's shiftlessness by making the earth bring forth abundantly some of the good things of life.

It is of importance to beekeepers to know just when this succession of bloom occurs that they may have their bees in the best possible condition to secure the nectar. So far as my observation and knowledge extends I will briefly enumerate them. About the first pollen comes from willow and soft maple usually about the middle of April, varying with the season; in the early part of May comes the hard or sugar maple, and this tree deserves more than a passing notice; it produces both honey and pollen in large quantities and I sometimes feel that were our bees in the same condition they are at the approach of basswood bloom we would receive nearly the same results. Fortunately my bees three years ago were very strong early, and many of them stored considerable honey from this source, and it being followed closely by the raspberry and blackberry bloom (with which this country abounds) I secured at least a thousand pounds of surplus previous to the opening of white clover bloom, from 60 colonies in my home apiary.

White clover opens from the 1st to the 15th of June, and in my 12 years of beekeeping has but once failed to give us a fair surplus. There is no gap between clover and basswood in this latitude; in wet seasons the clover often continues until after basswood ceases. The basswood opens from the 4th to the 20th of July, according to seasons, but cannot be depended on in this latitude, it is more sensitive and more dependent on atmospheric conditions than any bloom. In this latitude we usually get one or two days however, and once I remember of 10 days it secreted honey during the bloom. I find it does better along rivers and lake shores than on the uplands. After this there is a gap in the honey flow until the buckwheat, fireweed, goldenrod, asters and bonset come into bloom, of which aside from buckwheat this country abounds; it usually affords us some surplus, but the greater part goes to the brood nest for winter stores, in fact I have never had to resort to sugar for winter stores and hope I never shall. There are many more annuals and shrubs that go to make up the honey flora of northern Michigan, and we have some disadvantages our southern brethren do not have, but taking it all in all, I think the northern half of the lower peninsula better adapted to the pursuit of beekeeping and that the honey is of better quality than in the southern half.

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[illegible]

Poetry.

MUNNY MUSE.

In shirt of check, and tattered hair,
The fiddler sits in the bulrush chair,
Like Moses' basket stranded there
On the brink of Father Nile.
He feels the fiddle's slender neck,
Picks out the notes with thumb and cheek,
And times the tune with hand and back,
And thinks it a weary while.

All ready! Now he beats the call;
Cries "Honor to the ladies!" All
The jolly titles of laughter fall
And ebb into a happy smile.

D-O-W-N comes the bow on every string;
"First come join right hands and swing!"
And light as any bluebird's wing
"Swing once and a half time round!"

Whirls Mary Martha all in blue—
Calico gown and stockings new,
And daintiest eyes that tell you true,
Dance all to the dancing shoe!

She fits about like Moses Brown,
Who holds her hair in golden crown,
And her heart turns over once;
His cheek with Mary's breath is wet,
It gives a second sonnet.
He means to win the maiden yet,
Alas for the awkward dance!

"Your steps boot has crushed my toe;
I'd rather dance with one-legged Joe;
You clumsy fellow!" "Pass below!"
And the first pair dance apart.
Then "Forward six!" advance, retreat,
Like midgets play in merry street;
"Tis Money Music by my feat!"
And the Money Music by heart!

"Three-quarters round your partner swing!
Across the set!" The fiddler sings.
The girls and boys have taken wing,
And have brought their roses out!
"Tis 'Forward six!' with rustic grace,
And rarer far than 'Swing to place,'
Than golden clouds of old time lace,
They bring the dance about.

Then clapping hands all—"Right and left!"
All swiftly weave the measure deft
Across the waltz in living wet,
And the Money Music is done!
Oh, dancers of the rustic track,
Good night, sweethearts, 'tis growing dusk,
Good night for ye to Money Music,
For the heavy march begin!

—Benjamin F. Taylor.

GREEN THINGS GROWING.

Oh, the green things growing, the green things
growing,
The faint, sweet smell of the green things
growing!

I should like to live whether I smile or grieve,
Just to watch the happy life of my green things
growing.

Oh, the fluttering and the patter of those
green things growing!
How they talk each to each, when none of us are
knowing!

In the wonderful white of the weird moonlight,
Or the dreamy dawn, when the cocks are
crowing.

I love, I love them—so my green things grow!
I don't think that they love me, without false
showing!

For by many a tender touch they comfort me so
much,
With the soft, moist comfort of green things
growing.

And in the rich store of their blossoms glowing,
For one I take they're on me bestowing;
Oh, I should like to see, if God's will it may be,
Many, many a summer of my green things
growing.

But if I must be gathered for the angel's sowing,
Sleep out of sight awhile, like green things
growing.
Though dust to dust return, I think I'll scarcely
mourn
If I may change into green things growing!

Miscellaneous.

FARMER HETTY.

BY MATTIE DYER BRITTS.

Hester Brand stood in her cool, clean
dairy, a linen apron tied around her plump
waist, her round arms bare to the elbow,
working a huge bowl of fresh, sweet butter
into dainty prints, each stamped with a rose
on top.

There was no sham about Hester's prints.
A good 16 ounces to the pound, every one of
them. No sham about Hester either. She was
just what she pretended to be, and greatly
respected by everybody, notwithstanding a
small inclination to have her own way
which gave some folks room to call her stub-
born. But Hetty's head was usually set in
the right direction, and if her tongue did
grow a trifle sharp now and then, everybody
knew that a good, kind heart lay beneath.

A comely woman, still, spite of her one
and forty years. She was a pleasant object
to look upon as she stood in the inviting dairy.
So thought a stalwart farmer who presently
appeared in the doorway, and rather awk-
wardly addressed her.

"Good mornin', Hetty."

Hester looked up, and pausing a moment
in her work, answered:

"Morning, Nathan. Why didn't you go
to the house?"

"I did, first thing, Hetty. Lindy said
I'd find you out here."

"Well, you have found me, but I don't re-
ceive callers in my dairy. I never can teach
that stupid Lindy anything."

"Wal, I ain't a-goin' to pester ye long,
child," said her visitor good naturedly. "I
just want to speak to ye on a little matter of
business, if ye be as ye're agreeable."

"Go long and sit down on the side porch,
then. I'll be there as soon as I finish this
last print."

"Sartin! Sartin! Any way to suit ye,
Hetty," and with a whimsical twinkle in his
blue eyes, Nathan Strong took himself off to
the house.

Hester, with a faint little pucker of im-
patience on her brow, took her own time to
finish the print and set the whole crockful
into the stone trough, where the bright water
from a living spring rippled through the
dairy and kept all things fresh and cool in
the hottest weather.

"I'll be a cent! Nate Strong has got a
fool's idea in his head again," she solilo-
quized as she drew down her sleeves. "If he
be has, he'll go home with another, that's
all I've got to say!"

Stopping at the kitchen door to bid Lindy
go to the dairy and wash up the butterthings,
she went around to the porch where Nathan
waited for her.

"Will you go into the house?" she asked.

"No, thank ye, if you don't mind, we'll
just stay out here. The smell of them vines

is sorter sweet like, an' I kinder fancy sit-
tin' out 'em."

"Just as you please," said Hester, seating
herself in a splint-bottomed chair. "All well
over to your place, Nathan?"

"Wal, yes, I be. Aunt Betty is sorter
complaining with rheumatiz, as usual. She's
gittin' most too old to keep house, I reckon."

Hester frowned and thought, "He needn't
think I'll go keep his house for him," but she
said nothing.

Nathan, who was a bachelor and owned
the farm joining Hester's, saw the frown,
and understood it. He quietly went on.

"Wal, I said I'd come on a little busi-
ness, this mornin'. Was ye thinkin' o' run-
nin' the hall farm on your own hook, this
season?"

"Why, I hardly know, Nathan. Yes, I
suppose so."

"How would you like to rent out a field
or two, ef it would pay ye pretty well?"

"I don't know. I hadn't thought of it."

"Spose ye think of it now, then. I'd like
to rent that little patch on the south o'
my land, to put in wheat this fall. Would
ye give grain or money, jest as suits ye
best?"

"Well, I don't know," replied Hetty. "I
reckon I might as well let you have it as not.
I'd better take grain. We won't be apt to
raise as much as common, this year."

"I'm much obliged to ye," said Nathan.
"We'll fix it up all satisfactory," he hesitated
an instant, then added, "Don't ye find
it pretty tough tryin' to farm it alone, now
Jacob is gone, Hetty?"

"I guess I'll make it, if I do," replied
Hetty, tartly. "Jacob Brand was a big fool
to do as he did at his time of life, but that's
no reason the farm shouldn't go on."

"A fool for gettin' married, Hetty, or for
goin' out to Colorado?" asked Nathan, the
whimsical twinkle in his eye again.

"For both," answered Hetty, promptly.
"Wal, I think myself, it was a pity he sold
his half of the farm and went pokin' off
there," pursued Nathan, calmly.

"I don't care for the farm, my half is more
than enough to support me," said Hetty.

"Wal, I can't agree with you on the mar-
ryin' part, Hetty, girl. I'm nigh as old as
Jacob—I'll be forty-five come Christmas—
but I marry too, quick, if you would have
me."

Hester jumped up, her eyes flashing.

"There, Nathan Strong! I know you
couldn't go home without makin' a fool of
yourself."

"Softly, Hetty, girl, softly! It ain't a
sign of a fool to look a woman from the time
she's a mite of a school girl, an' never to look
at any other woman for her sake, is it?"

"No, but, Nathan, I've told you often and
often—"

Nathan rose too, and interrupted her.

"Hear me out this time, Hetty, an' I won't
bother ye again. Wal, not soon, anyhow.
Come, Hetty, this is a lonesome life, ain't it,
dear?"

"Yes."

"And it's a sight o' worry for a woman to
run a farm by herself, child."

"I don't care! Besides I've got a good
hired man, and Lindy is first rate in the
kitchen."

"But that ain't all, Hetty."

"Very well, when I want more help I'll
call on you."

Nathan colored, but quietly answered,
"You know I'd give you that, Hetty, any
day, whether you marry me or not."

"I never will marry you, Nathan Strong!
nor any other man!"

"There's comfort in that, Hester."

"I didn't intend it to comfort you. I
mean to show folks that a woman can live
by herself, and manage things without
having a man tacked to her apron-strings,
now put that in your pipe and smoke it."

"I don't smoke, Hetty. Remember hearin'
you say once, that you was dead agin'
smokin'! So I wouldn't learn, but I'll keep
in mind what you say. Hope you'll change
your mind some day."

"I shall not change it. I'll not be a
dunce at my age."

"No, I reckon you couldn't be that, if you
tried, Hetty. Wal, I'll go. Ef you need
any advice or help, remember, you've prom-
ised to call on me. Will you shake hands
before I go?"

Hester gave him her hand and he went
away.

"The silly fellow!" she said to herself
when he was gone. "To think he will keep
on liking me in spite of all, everything! But
I won't give up! I don't like to be liked!
I'm not lonesome. Oh, dear Jacob! Jacob
Brand, how could you go and do that way?"

And by way of proving her strongminded-
ness and independence, Hetty sat down and
had a good cry all to herself.

Truth told, Hester felt her brother's de-
fection dreadfully. She had been so sure
they would always live together on the old
homestead. Her real reason for refusing
Nathan Strong's offer many years ago had
been that she would not leave Jacob. Now
he has left her and divided the old farm, but
she has resolved not to follow in his foot-
steps.

"No, I've stood it this long and I can
stand it longer!" she would say grimly, when
she felt any signs of relenting.

But she soon discovered that it was one
thing to live on a farm where skilled labor
directed everything, and quite another to
undertake the directing herself.

In dairy, poultry yard and garden, or
among the sleek cows, she was entirely
home. But with the heavier work she
did not know what was best to do. If
Eben Sharp had not been perfectly trusty
things would soon have shown their want
of a head.

Even Eben could not do everything,
and it seemed to Hetty that as sure as
anything got into a muddle, somehow or
other, Nathan Strong was on hand to set-
tle it. She did not know whether she was
most grateful to him or angry at him.

One day during harvest when Eben was
"changing work" with the hands on a neigh-
boring farm, a sudden storm of wind and
rain came up.

The wind blew so hard that when the
gust was over and Hester went out to see if
any damage had been done, she found a por-
tion of a fence blown down, and some choice
young cattle at liberty to get out and wander
at their own sweet wills.

"This won't do," says Hetty. "And
Eben will not get home these two hours or
more. What's to be done, I wonder?"
She settled the question by going to work

at the fence herself. Even Lindy was gone,
so there was no one to help her but she went
bravely at her task, but the rails were heavy
and hurt her hands and they would not stay
as she put them. She was so worried that
she did not see anyone coming until a fam-
iliar voice said right at her elbow:

"Hetty, strikes me that ain't jest the work
for you. Suppose you let me try it a spell."

"Goodness gracious, Nathan! I do wish
you would," answered Hetty, clear out of
breath. The next minute Nathan was
handling the rails as if they were mere twigs
while Hetty stood helplessly looking on.

"There! Now the critters won't get out!"
said Nathan when the fence was all up.

"I'm mighty much obliged to you, Na-
than," returned Hetty, quite humbly, for her.

"Sho, taln't with it, child! I'm glad to
serve ye, any way I can, ye know. We're
men mayn't be very pretty fellers, but we're
kind o' useful once in a while." With one
of his quizzical looks at her, he mounted
his horse, and rode away, leaving Hester to
go to the house feeling very much provoked
and not knowing whether it was at the wind,
the cattle or Nathan.

After the storm things went smoothly for
some time. Hetty saw Nathan looking at
her in church every Sunday, but he kept his
word and did not come to "bother her."

Such queer things women are! She scold-
ed him when he did come, and now he
didn't, she missed him and wished he
would.

Hester had the finest herd of young stock
in the neighborhood, she was proud of them
and meant to realize a handsome sum from
them in the future. Hearing of a nice calf
for sale on the Mills' place, about two miles
off, she got into her buggy one day and
drove over to look at it, with a view of
making a purchase.

Eben had gone to town; she directed him
to return by the Mills farm so that if she
bought the calf he could drive it home. The
animal proved to be what she had heard,
and she soon struck a bargain for it. Then
she waited a reasonable time for Eben. No
Eben appeared, and she feared he might
have been detained in town, and would not
get home before dark.

So she said to Mr. Mills: "I don't be-
lieve it is any use to wait, besides, why need
I depend on any man? Just bring the calf
out, I've got a rope ready, and I'll lead it
home myself."

"Wal, now, Miss Hester, I don't see just
how you're goin' to manage it," observed
Mr. Mills, dubiously.

"You fetch the calf out, the rope round its
neck and give me the other end," and Hetty
put her arm out at the back of the buggy.

"Now, Miss Hester, you ain't agoin' to
try to lead the critter that ar' way," re-
monstrated the farmer.

"That's what I am, Mr. Mills."

"Wal, ye better not, then. A calf is a
pesky tricky critter to drive, sometimes.
I low ye'll see a sight of trouble with it,
even if your beast don't get skeered."

"Old Bob wouldn't scare at a traction en-
gine," said Hetty, "and I'm not likely to be
whipped out by a calf like that. Give me
the rope, now."

"Wal, there 'tis. Ef a woman wills she
will, I s'pose. But ef you get your neck broke
with the blamed little beast, don't say I
didn't warn ye aforehand."

"I won't, Mr. Mills. Good day." Hetty
drove off, leading the calf behind the
buggy.

Old Bob glanced around now and then as
if he did not altogether relish his company.
But he behaved pretty well—as long as the
calf did. It trotted behind contentedly for
half a mile or so, then began to frisk and
bound, making little side-long runs, jerking
the rope.

To make it secure she gave it a turn and
a to around her wrist, and held on tighter,
first scolding Bob and then the calf, having
all she could do to manage the reins with
one hand and the jumping calf with the
other.

Every moment the little beast grew frisk-
ier, and poor Hester's arm was almost pulled
off.

"Good gracious! Will I ever get home
alive?" she cried in despair. "If I ever
have thought of such a time. If I ever—
do get out of this—try her breath coming
in pants, 'if I never—try it again!"

Suddenly she heard a horse coming up the
hill behind her.

"It may be Eben," she said. "Oh, I
hope it is! I can't stand it much longer!"
She turned round to look back and see if the
rider was Eben and did not see a large rock
before her. Just then the calf gave a spring,
jerking the rope violently. Bob whirled,
the buggy struck the rock and went over,
and calf, horse, buggy and woman were
tumbled together, the rope still fast to
Hetty's wrist, and the beast tugging at it
with might and main.

Hetty screamed in spite of herself. There
was an answering shout. A horse galloped
madly up. A man sprang to the ground,
snatched his knife from his pocket and cut
the rope. As the freed calf darted off he
caught the lines, controlled Bob with a quick
hand and lifted Hetty from the upset buggy,
saying in tones of consternation:

"Lord sakes, Hetty, what's up now?"

"Why, I am," gasped Hetty, standing
herself by his arm a moment.

"But what does it mean, child?"

"It means—I am a fool, that's what. See
you Bob, please?" and down sat Hetty on the
rock which had shipped her, and began to
cry. Nathan let her cry quietly, while he
righted the buggy, and saw that Bob's har-
ness was all right. Then he returned to her,
judging her excitement to have had its way,
and said, kindly, "Come, Hetty, get up.
The horse and buggy are all right. You are
not hurt, are you?"

"No, but I'm mad!"

"What at, child?"

"Because I'm a fool, I tell you. Nathan,
where's that calf?"

Nathan tried to look sober as he said,
"Kickin' up his heels somewhere down the
road, I expect. It isn't in sight. Let me
drive you home and then I'll hunt it up
for you."

"I can drive myself," replied Hetty,
rising. "Nathan, you always seem to be on
hand when I'm in trouble."

Nathan turned like a flash, his homely,
kindly face lighting up all over.

"Lord-a-massy, child; that's just what I
want to be. Don't you see you can't get
along without me? Don't try any more,

Hetty. Let me take care of you and help
you, always, dear."

"I might as well, I do believe," said
Hetty, turning fiery red.

"So you might, child, bless your heart.
You shall never be sorry for it," and some-
how Nathan had got hold of her hand.

"But Nathan, my farm."

"Oh, never mind the farm, I'll run 'em
both. Now let me help you into the buggy."

As he did so he took one kiss to repay him
for his long waiting.

But Hetty would not let him drive her
home. So he went back to find her runaway
calf, while she drove on alone. That is,
Bob took her home in his own fashion. She
was too busy thinking that she didn't care
if she had given up, because Nathan was
such a good, true faithful fellow, to pay any
attention to Bob.—Indiana Farmer.

Our Forefathers' Fashions.

It is most interesting to note the various
changes and modifications that have come
over the fashions since the Inauguration
Ball of a hundred years ago. Full dress for
gentlemen, in those days, consisted of silk
coat, and breeches of the same, and embro-
dered waistcoats; sometimes white satin
breeches. Buckles were fashionable, and a
man could not have remained in a ball-room
with shoe-strings.

At weddings it was customary for the
bride, bridegroom, and maids and men at-
tending, to go to church together three suc-
cessive Sundays after the wedding, with a
change of dress each day. It is recorded
that one gentleman appeared the first Sun-
day in white broadcloth, the second in blue
and gold, the third in peach bloom and pearl
buttons.

Most of the men wore powder, and many
of them sat from thirty to forty minutes
every day under the barber's hands, to have
their hair crimped, suffering no inconsiderable
pain most of the time from the hair-pulling,
and sometimes from the hot curling tongs.
Cocked hats, wigs, and red cloaks were the
usual dress of gentlemen; boots being rarely
seen except among military men. Shoe-
strings were worn only by those who could
not afford to buy buckles. In winter round
coats were used, made stiff with buckram,
which came down to the knees in front.

Before the Revolution even the boys wore
wigs and cocked hats. Crapshouses, and
hoops were indispensable in full dress. A
sailor, walking in one of the streets of the
city, met two ladies whose hoops entirely
covered the pavement, and seeing no way of
passing without going into the street,
sprang completely over the hoops, and
through a vacancy made by their extension,
to the infinite diversion of the spectators.

At the elbows, the ladies wore from four
to six rows of ruffles. They wore no bonnets
whatsoever, the head-dress consisting of a large
quantity of wool laid on the head, with the
hair lapped fancifully over it; these were de-
nominated cushions, and were generally six
inches high. Another kind of head-dress,
which was called a calash, was made in the
manner of a gig top, and was drawn over the
face when the heat of the sun was too oppres-
sive.

The ladies wore shoes with sharp toes, and
large silver buckles set with brilliant stones,
and their trains were anywhere from two to
three feet long. Sometimes ladies were
dressed the day before the party, and slept
in easy chairs, to keep their hair in fit con-
dition for the following night.

Parasols were unknown, and one gentle-
man who imported an umbrella from Eng-
land was looked upon as a great fop. The
latest dinner hour was two o'clock; but some
of the Colonial Government dined later.
In genteel families ladies went to
drink tea about four o'clock, and rarely
stayed after candlelight. In summer.—Once-
a-Week.

Beavers Loved Muggins.

Of all the story-tellers in the West, J.
Beider is least given to exaggeration. He
was talking to a party of friends yesterday
and was in his best vein, says the Helena
(Mont.) Independent.

"It is a fact," he said, "and can be
proved by a number of persons, not only in
Helena, but all over the Territory."

"What is it?" was asked by a newcomer.

"I was tellin' a story about Muggins Tay-
lor. Muggins was a trapper, as good as any
one that ever baited a trap in Montana. Be-
fore Fort Custer was built, in 1877, the Big
and Little Horn was full of beaver, but
since that summer when the soldiers, chap-
pers and mechanics commenced chopping
logs and wood, rafting, running sawmills
and engaged in other civilized pursuits the
beaver dropped to the situation and left."

"But before civilization Muggins and I
trapped on all the streams. He was then on
the Yellowstone. I told him I thought
the beaver would come to that stream, leav-
ing the places where they were then thick,
on account of the influx of inhabitants into
their country. He agreed with me and said
he would make a big catch if I would stick
to him, and I agreed to do so."

"We went over to Fort Custer and traded
two mules for an outfit superior to any a
trapper had in that region. We had 300
traps and plenty of skinning knives—a good
outfit all around. At Custer I helped him
across the Big Horn and as I had other
business to attend to I left him. He went
to the Yellowstone and set his traps on
the south side of the river."

"The next morning he examined his traps
up and down the stream but didn't have a
beaver, nor could he discover a sign. He
waited a day, sharpened his knives, intend-
ing to rest during the night and to visit his
traps the next day, and if he discovered no
beaver he would go some place else. That
night he discovered the prairie fire, and
only saved himself by catching his outfit
and taking refuge under a protecting bank
of the stream. The fire was such a furious
one that it leaped clear across the river and
burnt the grass for miles on both sides of it."

"In the morning he crept out from under
the bank where he had concealed himself,
and the first thing that suggested itself was
business, and started on a tour of inspection
of his traps. He found that his first trap
had a beaver fast, and looking up the river
he could see the water agitated in the vicinity
of his traps. Of course he was agitated, for
300 beaver ain't to be picked up in a single
night."

"Pulling up the first trap, he found the
beaver, but what was his surprise to find
that the animal did not have a single hair.
His first impulse was to kill the animal, but

after having released it he saw that besides
having its fur scorched off, its feet were
burned, so he let the little fellow go. As it
swam off it wagged its tail as if to thank its
captor for what he had done. Going to the
other traps he found that each trap had a
beaver, but there wasn't fur enough in the
whole lot to wad a Wells-Fargo shot-gun,
so he let them all go, cursing the fire for
what it had done for him."

"He lay around until the next spring and
commenced trapping again, shrewdly think-
ing that the fur of the animals would have
grown again to that time. Well, he had
splendid luck, catching from fifteen to twen-
ty a night. But Muggins had learned a
lesson. He wouldn't skin the animals,
but just sheared them and let them go back
into the water."

ligaments and tendons are slower in healing

laments that tendons are slower in healing and injuries to bones still more tedious, as they frequently will not heal until a part exfoliates and is cast off. This may be known by the excessively foetid smell of the wound. Wounds of the skin are also tedious, as the skin is never produced in the middle of the wound, but it gradually grows from the edges until the wound is closed. This new skin never produces hair, therefore it is of importance not to cut off or destroy any skin that can be saved, so that the bluish or red skin may be as small as possible—though the old skin is often in time drawn over the wound by the new to a great extent, and the expected scar much diminished.

ARMADA, June 15, 1889.

law regarding Canada thistles will be found in Chapter 67 of Howell's Annotated Statutes, Sections 2232 to 2239 inclusive, given in full below. Our correspondence will call the attention of the supervisor of the township to any violations of the law and the nuisance abated:

to endanger the spread thereof, he shall, on conviction, be liable to a fine of ten dollars for every such offence.

SEC. 2.—It shall be the duty of the overseer of highways in any township to see that the provisions of this act shall be carried out within their respective highway districts, and they shall give notice to the owner, possessor, or occupier of any land within said district wherein Canada thistles shall be growing and in danger of going to seed, requiring him to cause the same to be cut down within five days of the service of such notice, and in case such owner, possessor or occupier shall refuse

sworn by him in carrying out the provisions of the preceding section of this act with respect to each parcel of land entered upon, and therefor, and shall offer a statement of such expense, describing by its legal description the land entered upon, and verified by oath to the owner, possessor or occupier of such residential lands requiring him to pay the amount; in case such owner, possessor or occupier shall refuse or neglect to pay the same within thirty days after such application, said claimant shall be presented to the township board of the township in which such expense was incurred, and said township board is hereby

SEC. 4.—The supervisor of the township shall cause all such expenditures as have been so paid from the township treasury under the provisions of this act to so generally levied on the lands so described in the statement of the overseer of highways and to be collected in the same manner as delinquent highway taxes are collected, and the same when collected shall be paid into the township treasury to reimburse the outlay therefrom aforesaid.

SEC. 5.—Any person who shall knowingly vend any grass or other seed, among which there is any seed of the Canada thistle, shall

published in pamphlet form, and ten copies
hereof forwarded to the supervisor of each
ownership in this State.

Sheep Breeders' Convention.

On Saturday, June 1st, 1889, the Michigan
Lamboulllet Sheep Breeder's Association met
at the residence of Hon. Henry Grinnell, in
West Bloomfield, Oakland Co., Mich.

President, Henry Grinnell, Franklin, Mich.; Vice Pres., L. G. Townsend, Dallas, Mich.; Sec., Frank Eagar, Howell, Mich.; Judges of record and membership, Thomas Yockoff, Davisburgh, Mich., and Horace Foolstead, North Farmington, Mich.

IV.—That each member shall keep a record of his flock, by means of metal labels numbered, in the ear of each animal.

V.—That a secretary shall keep a record of all the sheep owned by the association, and each member shall forward each year to a secretary for registration, a certified copy of the increase of his flock by numbers, and sales or transfers made.

VI.—That no sheep shall be recorded until inspected by the judges of record.

VII.—That no pure-bred ewe that has ever produced cross-bred rams shall be eligible to

Reports were made showing that these sheep often attain weights of 250 to 300 lbs, and are sent from France to South America

HARVEY KING.

HARVEY KING.

In this city, where, in connection with his farming interests, he carried on the dairy business. He was successful, and when the Cass farm was platted he purchased part of it. On this he built the Brighton House, which was largely patronized by farmers from the surrounding counties who made Detroit their market, before the railroad was built. He was a member of the national and local

In all his business ventures Mr. King had been successful, but a few years ago, through endorsing for a friend, he was called upon to pay \$185,000. This would have staggered a younger man, but he at once took hold of the business in which his friend had failed,

As the result of the work done by the Michigan Stove Company, of Detroit, in testing and applying aluminum additions to iron in making castings, they were the recipients of many letters containing inquiries, &c. They have made arrangements with a producer of aluminum, who makes about 50 pounds per day, to supply the metal to purchasers at \$5

1.34 silicon and 0.32 iron. At first considerable trouble was experienced in endeavoring to roll the metal, but now it is rolled to any thickness. The Michigan Stove Company has recently received some foil, and also a quantity rolled to No. 8 Brown & Sharp gauge. They are ready to supply it from $\frac{1}{16}$ inch down. They attain good results down to .005 inch in plates nine inches wide. The Michigan Stove Company certainly deserve credit for the energy which they have displayed in this matter. They have done

look over the grounds of the Central Michigan Society. Some additional buildings will be needed, and the work will have to be started at once. The street cars will run to the grounds, and it is likely a spur will be built so as to allow the railroads to bring machinery and stock direct to the grounds. The citizens of Lansing are enthusiastic in their endeavors to make a success of the fair. They offer every assistance in their power

the Vermicidal Dressing Co. This mixture has proved very efficacious in the destruction of insects where used by the gardeners in the vicinity of Detroit, and is worthy of a trial by our farmers. It is put up in trial packages of five pounds, which cost \$1 00. A liberal discount is made on larger orders. Full particulars for its application are sent with each package.

SOME time ago a man sold the Jute Bag Trust, of San Francisco, 187,500 grain bags at 7½ cents each. He failed to deliver according to contract. The trust brought suit, and his defense was a motion for a non-suit on the ground that the purchase was part of a scheme to control the market, and there-

examinations there appeared reasons for believing that the fats are less digestible in the moldy grain than in the fresh.

DETROIT WHOLESALE MARKET

FLOUR.—All grades have advanced during the week in sympathy with higher prices for wheat. Quotations on car-load lots are as follows:

Nichigan roller process	4 00	②
Nichigan patents	4 50	②
Minnesota, bakers	4 00	②
Minnesota, patents	5 25	②
Low grade	2 75	②
Low grades	2 50	②

De. 88½c. No. 3 red, 75c; rejected red, 50c. In futures, No. 2 red for June closed 85c, July at 80¾c, August at 79½c, and September at 80½c.

COIN.—Firm and higher. No. 2 quoted at 9 bu. for spot, and 36¼c for July delivery. No. 2 yellow quoted at 37c.

OATS.—Quoted at 29c for No. 2 white, 28½c for light mixed, and 25½c for No. 2 mixed.

BARKLEY.—The range is 90c to 110c per barrel. Market steady. Receipts for the week

BUTTER.—Dull and weak. The range for good to choice dairy is 10@12c $\frac{1}{2}$ lb., and for creamery 14@17c $\frac{1}{2}$ lb. Receipts are heavy and there is no outlet at present.

CHEESE.—Quoted at 82c for new. Old 80c@12 $\frac{1}{2}$ lb. Market quiet.

EGGS.—The market is steady at 12 $\frac{1}{2}$ @13 $\frac{1}{2}$ for fresh receipts. Receipts and demand are

ers, 150¢160 for fancy. Cocoanuts, per 100
50¢25. Persian dates (new), 5¢@6¢ per
the box. Pineapples, 15¢75¢ 20¢ dozen.
SALT.—Michigan, 80¢ per bbl. in car lots.
85¢ in 10-bbl. lots; dairy, 1¢80¢23 10 pe
Ashton quarter sacks, 72¢.
HIDES.—Green city, 3¢@ 2¢, country
cured, No. 1, 4¢@5¢; No. 2, 2¢@3¢.
Hf, No. 1, 4¢@5¢; No. 2, 2¢@3¢; veal kip
No. 1, 3¢; runners and No. 2, 2¢@3¢; sheep
skins, 50¢@125 as to quantity of wool.

POTATOES.—Market lower. Quoted at 25¢ per bu. for old. New Southern, \$1 75 @ 50¢ bbl.

APPLES.—Boxes of one peck sold at 50¢ and barrels at \$4 50@5. Market weak.

POULTRY.—Live quoted as follows: Oldsters, 4¢; fowls, 8¢; spring chicks, 12¢ @ 15¢; ducks, 8¢; turkeys, 9¢. Receipts large and market steady.

MAPLE SUGAR.—New quoted at 92@10¢ for new.

bu., green peas, \$1 00. Per two bbl. crates of
 cabbage, \$1 60 at 75. Per bu., string beans,
 \$2; wax, \$2 50 at 75; squash \$1. Per
 ten bunches, beets, 40¢ at 45¢; carrots, 40¢

STRAWBERRIES.—Michigan in light sup-
 ply and selling at \$7.08 per stand, some lots

GOOSEBERRIES.—Quoted at \$3.24 for two
 bushel stands.
WATERMELONS.—In moderate supply,
 selling at \$35.40 per 100.
PROVISIONS.—Market practically un-
 changed. Quotations in this market are as
 follows:
 Corn, new..... 12 25 @ 12 50
 do., old..... 12 50 @ 12 75
 Wheat, clear..... 13 00 @ 13 50
 do., in kegs, No. 1..... 6 1/2 @ 6 3/4
 do., in kegs, No. 2..... 7 1/2 @ 7 3/4

Monday.—8 loads: Three at \$14; two at \$12; at \$16, \$15 and \$14 50.

Tuesday.—32 loads: Eight at \$13; two at \$15, one, \$14, \$13 50 and \$11; one at \$12 50, \$12, \$11 50 and \$11.

Wednesday.—17 loads: Four at \$13; three at \$12; at \$18, \$14 50, \$13 50 and \$11 50; one at \$5 and \$10.

Thursday.—25 loads: Six at \$13 and \$12; two at \$5, \$10 50 and \$10; one at \$13 50, \$11, \$9 and \$5.

Friday.—10 loads: Three at \$12; two at \$13 and \$11 50; one at \$15, \$12 50 and \$8.

ers will therefore govern themselves accordingly.

LIVE STOCK MARKETS.

King's Yards.

CATTLE.

The market opened up at these yards with a good supply of cattle on sale. For good cattle

emaud was active and prices ranged a
b higher than those of last week for this

	nominal
Extra graded steers, weighing 1,200 to 1,450 lbs.	4 90/100
Choice steers, fine fat and well formed, 1,100 to 1,350 lbs.	3 80/100
Good steers, well fatted, weighing 950 to 1,100 lbs.	3 60/100
Good mixed butchers' stock—Fat cows, heifers and light steers.	3 00/100
Coarse mixed butchers' stock—Light thin cows, heifers, stags and bulls	2 50/100
Brockers.	2 50/100
Bulls.	2 15/100

Robb sold Cross a mixed lot of 7 head of
thin butchers' stock av 410 lbs at \$2.60 and
fair butchers' steers to Gentner av 1,057 lbs at
\$3.25.

Beach sold Cross a mixed lot of 12 head of
good butchers' stock av 891 lbs at \$3.

Schrader sold Knoch 4 choice butchers'
steers av 1,150 lbs at \$3.75.

Pere sold Kofski 4 fair butchers' steers a
1,040 lbs at \$3.25.

C Roe sold John Robinson a mixed lot of 1
head of good butchers' stock av 888 lbs at
\$3.25; 3 fair ones av 850, the lot at \$2.75, and

weighing 900 lbs at \$2.
 • McCullen sold McIntire a mixed lot of 21 head of thin butchers' stock av 635 lbs at \$2.50.
 • McHugh sold Bartholemew a mixed lot of 21 head of good butchers' stock av 958 lbs at \$3.35.
 • Switzer & Ackley sold Marx 3 fair butchers' steers av 1,030 lbs at \$3.25.
 • McCaferly sold Wilcox 5 fair butchers' steers av 1,014 lbs at \$3.15.
 • Lovell sold Wreford & Beck 4 choice steers av 1,235 lbs at \$3.70 and a fair cow weighing 1,200 lbs at \$2.75.

and cows ad 1,150 lbs at \$3.25.
 Estep sold Mason a mixed lot of 5 head of fair butchers' stock ad 870 lbs at \$2.90.
 Winslow sold Marshlack 4 fair butchers' steers ad 1,020 lbs at \$3.25.
 Craver sold M-Gee a mixed lot of 15 head of coarse butchers' stock ad 766 lbs at \$2.25.
 Beardsley sold Wreford & Beck 6 fair butchers' steers ad 1,045 lbs at \$3.35 and 3 good cows ad 1,043 lbs at \$3.
 Webb sold Caplis a mixed lot of 20 head of thin butchers' stock ad 700 lbs at \$2.50.
 Schrader sold Goodison 5 fair shipping steers ad 1,250 lbs at \$5.75.
 Helms sold Karsa a mixed lot of 10 head of

Haley sold Kellogg a mixed lot of 9 head of thin butchers' stock av 876 lbs at \$2.50.
Sprague sold McGee a mixed lot of 7 head of coarse butchers' stock av 982 lbs at \$2.20.
Holmes sold Murphy a mixed lot of 26 head of thin butchers' stock av 685 lbs at \$2.60 and 12 to Cross av 796 lbs at the same price.
Pickering sold McGee a mixed lot of 17 head of thin butchers' stock av 932 lbs at \$2.50.
Clark sold Wreford & Beck a mixed lot of 11 head of good butchers' stock av 1,023 lbs at \$3.
C Roe sold White a mixed lot of 15 head of fair butchers' stock av 1,053 lbs at \$2.85 and 2

\$5 50.
Astley sold Fitzpatrick 55 av 69 lbs at \$3 50.
Lovewell sold Loosemore 100 av 60 lbs at \$3.
Vickery sold Ellis 29 av 92 lbs at \$3 75.
Hornor sold Young 76 av 86 lbs at \$4.
Egerton sold Monahan 88 av 70 lbs at \$3 50.
Craver sold Morey 31 av 79 lbs at \$3 75.
Haley sold Baxter 17 part lambs, av 74 lbs
at \$4.
Taggart sold Baxter 51 av 85 lbs at \$4.
Page sold John Robinson 52 av 81 lbs at
\$3 55.
Reason sold Burt Spencer 241 av 71 lbs at
\$3 50.
Hornell sold Woodard & Baskin 100 av 60 lbs at \$3 50.

Sprague sold Steele 36 av 189 lbs at \$4 55.
Purdy sold R S Webb 24 av 102 lbs at \$4 50.
Peach sold Platt 26 av 142 lbs at \$4 50.
Watson sold Sweet 27 av 154 lbs at \$4 50.
Switzer & Ackley sold R S Webb 22 av 211 lbs at \$4 50.
Proper sold Webb Bros 68 av 157 lbs at \$4 40 and 11 to Ford av 156 lbs at \$4 50.
Patton sold Webb Bros 36 av 185 lbs at \$4 50.
Pearson sold Steele 33 av 200 lbs at \$4 55.

Adgate sold Webb Bros 26 av 188 lbs at \$4 50.
Sweet sold Steele 35 av 161 lbs at \$4 55.
Goodison sold Webb Bros 11 av 160 lbs at \$4 50.
Pinkney sold Kuner 14 av 80 lbs at \$4 75.
Seefield sold R S Webb 39 av 191 lbs at \$4 50.
Beardslay sold R S Webb 22 av 188 lbs at \$4 50.
Belhimer sold Steele 21 av 152 lbs at \$4 50.
Astley sold R S Webb 29 av 167 lbs at \$4 55.
Capwell sold R S Webb 39 av 185 lbs at \$4 50.
Horner sold Steele 100 av 171 lbs at \$4 50.

recepts or calves has been heavy this week and prices have ranged from \$4 to \$4.50 or hundred.

C R Coe sold John Robinson a mixed lot of 14 head of fair butchers' stock av 880 lbs at \$2.85 and 2 thin heifers av 615 lbs at \$3.25.

Johnston sold Kraft 5 good butchers' steers 1,098 lbs at \$3.60.

Casey sold John Robinson a mixed lot of 18 head of fair butchers' stock av 849 lbs at \$2.50 and 6 coarse ones av 930 lbs at \$2.25.

C R Coe sold John Robinson a mixed lot of 11 head of fair butchers' stock av 739 lbs at \$3.65 and 3 steers to Seligman av 1,000 lbs at \$3.25.

McQuillan sold John Robinson a choice w weighing 1,340 lbs \$3 25.

NEW ADVERTISEMENTS.

PATENTS.

Johnston sold Sullivan 6 feeders at \$71 lbs at \$3.

SHEEP.

The receipts of sheep numbered 489 head.

The demand was netted, and the receipts showed hand still for another week.

PARKER & BURTON.

35 & 36 BURL, BLOW, DETROIT.

Attorneys and Consultants at a Law Office of United States and Foreign Patents. Promptly with CANCELLATION PATENT LAWS, MAILED FREE ON APPLICATION

MANAGER WANTED ON SALARY \$2000 PER YEAR

To open a branch office in your locality. Business purely mercantile. One that will inspire you with confidence. No capital required. No experience necessary. No peddling. J. E. SHEPARD, Cincinnati, O.

deal, but there was a fair demand at prices somewhat lower than on the previous Monday. Good 1,500 to 1,600 lb steers were quoted at \$3 25 to \$4; good 1,400 to 1,500 lb calves at \$4 30; good 1,300 to 1,400 lb do at \$4 04 1/2; good 1,200 to 1,300 lb do at \$3 80 1/2; good 1,100 to 1,200 lb do at \$3 65 1/2; \$5; good 1,000 to 1,100 lb do at \$3 50 1/2; good 900 to 1,000 lb do at \$3 50 1/2; mixed butchers and cows and calves, poor to common at \$2 35 1/2; choice to extra at \$2 50 1/2; stockers, fair to extra, at \$2 50 1/2; feeders, do at \$2 50 1/2. On Thursday no fresh receipts on Tuesday and only two loads on Wednesday, which were sold at a price of 10 1/2 cents from Monday's price. There was nothing doing on Thursday, there being only three loads offered. On Friday the run was light and the market dull, closing at the following

QUOTATIONS:

Price: Good to best, \$5.00; fair, to good, and 50¢; poor, 40¢; common, \$4.50. **BEER**—The market was active and well supplied on sale Tuesday. Prices were 15¢ to 20¢ lower on Wednesday for the few ferred but this was regained on Thursday as the market closed firm on Friday all Monday's prices.

HOGS—Receipts 17,960, against 30,240 the previous week. There were 85 car loads of hogs on sale Monday. The demand was very brisk and the market strong and 50¢ to 10¢ higher on all grades than on Saturday. Prices brought, \$4.00 to 45¢; Yorkers, \$4.50; medium weights, \$4.60; roughs, \$3.75 to 4.25; \$3.25 to 3.50; everything was sold out on Friday in the day. Prices were steady on Tuesday, raised 50¢ to 10¢ on Wednesday, and 5 cents more was taken off Thursday. The market on Friday was active and well supplied with heavy and medium weights and 10¢ to 15¢ higher on all grades than on Tuesday at \$4.80 to 4.65; light Yorkers, \$4.75; heavy Yorkers and mixed packing, \$4.70.

Chicago.

@ \$2.70 for Texas calves. Native cows
 sold at \$1.25 to \$1.35, bulls at \$1.00 to \$1.50. Stock
 sold at \$2.40 to \$3.00. The market was quiet
 and steady on Tuesday. Prices for the best
 feeders were firm on Wednesday, but com-
 mon and lower grades were weak. There was a fair
 demand on Thursday, and sales were made at
 prices of the day before. On Friday the
 market was fairly active and prices un-
 changed. The following were the closing

QUOTATIONS:

and to choice steers, 1,500 to 1,700 lbs.	4 30/64 to 4 31/8
and to good 1,300 to 1,500 lbs.	3 30/64 to 3 31/8
and to fair, 900 to 1,250.	3 30/64 to 3 31/8
and to good, 1,000 lbs.	3 30/64 to 3 31/8
and to choice cows, 1,000 to 1,200 lbs.	3 30/64 to 3 31/8
and to common to choice cows, 850 to 1,000	3 30/64 to 3 31/8
and to good 1,000 to 1,200 lbs.	3 30/64 to 3 31/8
and to best bull, 900 to 1,300 lbs.	3 30/64 to 3 31/8
and to feeders and feeders.	3 30/64 to 3 31/8
and to good 1,000 to 1,200 lbs.	3 30/64 to 3 31/8
and to steers.	3 30/64 to 3 31/8

OGS.—Receipts 93,608, against 76,237 last

Shipments 22,123. The receipts of on Monday numbered 31,410 head. The demand was fairly active, but prices ranged 16 cents lower than those of Saturday. The prime light sold at \$4 25@4 55; inferior led to choice heavy, \$4 15@4 40; skips and s, \$3 25@4. The market was active and a shade higher, ruled steady on Tuesday, but on Thursday was a trifle less. On Friday the receipts were lower, demand slow and prices 10 cents lower. The prime light sold at \$4 30@4 55; inferior led to choice heavy, \$4 25@4 45; skips and s, \$3 50@4 16.